AUTHORIZATION TO DISCHARGE UNDER THE
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM

In compliance with the provisions of the Federal Clean Water Act, as amended, (33 U.S.C. §§1251 et seq.; the "CWA"), and the Massachusetts Clean Waters Act, as amended, (M.G.L. Chap. 21, §§26-53),

New Bedford, MA

is authorized to discharge from the facility located at the

Municipal Wastewater Treatment Facility and
Combined Sewer Overflows

to receiving waters named Clark's Cove, Acushnet River and Buzzard's Bay

in accordance with effluent limitations, monitoring requirements and other conditions set forth herein.

This permit shall become effective on 30 days from the date of signature.

This permit and the authorization to discharge expire at midnight, 5 years from effective date.

This permit supersedes the permit issued on December 30, 1974.

This permit consists of 19 pages in Part I including effluent limitations, monitoring requirements, etc., and 19 pages in Part II including General Conditions and Definitions.

Signed this 17th day of Nov 1986

Director
Water Management Division
Environmental Protection Agency
Region I
Boston, MA

Director, Division of Water
Pollution Control
Department of Environmental
Quality Engineering
Commonwealth of Massachusetts
Boston, MA

A. Effluent Limitations and Monitoring Requirements for POTW Outfalls Listed in Attachment A

1. a. Effluent Limitations and Monitoring Requirements

During the period beginning the effective date and lasting through expiration, the permittee is authorized to discharge effluent to Buzzards Bay from POTW outfalls 001 and 002 listed in Attachment A. Such discharges shall be limited and monitored by the permittee as specified below and shall be reported by the permittee pursuant to section C on page 11 of Part I: Sampling location(s) shall be chosen to be representative of actual discharge from outfalls 001 and 002.

Effluent Characteristic	Discharge Limitations (specify units) Average Monthly	Average Weekly	Maximum Daily[2]	Monitoring Requirement Measurement Frequency	Sample Type
Flow-m^3/Day (MGD)				Continuous	See Footnote 1
BOD	30 mg/l	45 mg/l	50 mg/l	Daily	24 Hour Composite
TSS	30 mg/l	45 mg/l	50 mg/l	Daily	24 Hour Composite
Settleable Solids[2]		0.1 ml/l	0.3 ml/l	Daily	Grab
pH[2]	(See A.1.b on page 4 of Part I)			Daily	Grab
Fecal Coliform[2]	200/100 ml	400/100 ml	400/100 ml	3xDaily	Grab
Chlorine, Total Residual	(See A.3 on page 4 and A.5 on on page 5 of Part I)			3xDaily	Grab
Oil and Grease			15 mg/l	Weekly	Grab
NOAEL[4]	40% or greater[3]			Monthly	24 Hour Composite
NOEC[6]	20% or greater[5]			Monthly	24 Hour Composite
LC50[7]; LOEC[8]; MATC[9]				Monthly	24 Hour Composite
Volatile Organic Compounds	*** Use EPA Test Method 624 ***			Monthly	Grab (Influent)
PCBs (Polychlorinated Biphenyls)			0.5 ug/l	Monthly	24 Hour Composite (4 grabs)

The discharges shall not cause a violation of the water quality standards of the receiving waters.

FOOTNOTES ON PAGE 3 OF PART I.

Footnotes

1. Report maximum and minimum daily rates and total flow for each operating date.

2. Required for state certification.

3. The "40% or greater limit" is defined as a sample which is composed of 40% (or greater) effluent the remainder being dilution water (see A.1.a on page 2 of Part I and Attachment C on page 18 of Part I).

4. No observed acute effects level (NOAEL) is the highest concentration of toxicant or effluent, to which organisms are exposed in a short-term test, in which at least 90% of the test organisms survive.

5. The "20% or greater limit" is defined as a sample which is composed of 20% (or greater) effluent the remainder being dilution water (see A.1.a on page 2 of Part I and Attachment C on page 18 of Part I).

6. No observed effect concentration (NOEC) is the highest concentration of toxicant or effluent to which organisms are exposed in a life-cycle or partial life-cycle test, which causes ~~an~~ adverse effect (on growth, survival, and reproduction). no sig 3/87

7. "LC50" is defined as the concentration of wastewater that causes mortality to 50% of the test organisms (see A.1.a.on page 2 of Part I and Attachment C on page 18 of Part I).

8. Lowest observed effect concentration (LOEC) is the lowest concentration of toxicant or effluent to which organisms are exposed in a life-cycle or partial life-cycle test, which causes an adverse effect (on survival, growth, and reproduction).

9. Maximum allowable toxicant concentration (MATC) is the toxicant or effluent concentrations that may be present in a receiving water without causing significant harm to productivity or other uses. MATC is determined by long-term tests of either partial life-cycle with sensitive life stages or a full life-cycle of the test organism. The MATC is the geometric mean of the no observed effect concentration and the lowest observed effect concentration.

b. The pH of the effluent shall not be less than 6.5 nor greater than 8.5 at any time, unless these values are exceeded due to natural causes or as a result of the approved treatment processes.

c. The discharge shall not cause objectionable color, odor or turbidity to the receiving waters.

d. The effluent shall contain neither a visible oil sheen, foam, nor floating solids at any time.

e. The permittee's treatment facility shall maintain a minimum of 85 percent removal of both total suspended solids and biochemical oxygen demand. The percent removal shall be based on monthly average values.(**During Dry weather Only**)

2. The permittee must provide adequate notice to the Director of the following:

a. Any new introduction of pollutants into the POTW from an indirect discharger in a primary industry category discharging process water; and

b. Any substantial change in the volume or character of pollutants being introduced into the POTW by a source introducing pollutants into the POTW at the time of issuance of the permit.

c. For purposes of this paragraph, adequate notice shall include information on:

(1) the quality and quantity of effluent introduced into the POTW; and

(2) any anticipated impact of the change on the quantity or quality of effluent to be discharged from the POTW.

3. Toxic control

a. The permittee shall not discharge any pollutant or combination of pollutants in toxic amounts.

b. The total chlorine residual (and/or other toxic components) of the effluent shall not result in any demonstrable harm to aquatic life or violate any state or federal water quality standard which has been or may be promulgated. Upon promulgation of any such standard, this permit may be revised or amended in accordance with such standards.

c. The permittee shall minimize the use of chlorine while still maintaining adequate bacterial control.

4. Sludge

The permittee shall not discharge sewage sludge into waters of the United States from any outfall.

5. Toxicity Tests and Chemical Analysis

a. Effluent Monitoring

Beginning the effective date of the permit, the permittee shall perform the following tests every month on each sample from outfalls 001 and 002. The permittee shall use the sampling and test procedures outlined in Attachment C on page 18 and shall report the results to the EPA and MADWPC pursuant to section C on page 11 of Part I:

(1) Chronic Toxicity Tests to Establish the NOEC, LOEC and MATC

Chronic toxicity tests on representative 24 hour composite samples of the discharge using each of the following organisms:

(i) the sheepshead minnow, Cyprinodon variegatus (7-day tests to measure growth and survival); and

(ii) the red marine alga, Champia parvula (2 to 4 day tests to evaluate the effects on sexual reproduction).

The endpoints to be established in the chronic tests are the No Observed Effect Concentration (NOEC), the Lowest Observed Effect Concentration (LOEC), and the Maximum Acceptable Toxicant Concentration (MATC).

(2) Acute Static Toxicity Tests to Establish the NOAEL and LC50.

96 hour acute static toxicity tests on representative 24 hour composite samples of the discharge shall be conducted using one to five-day-old juvenile mysid shrimp, Mysidopsis bahia, to establish No Observed Acute Effect Levels (NOAEL) and LC50s of the effluents.

(3) Chemical Analysis

A portion of each effluent sample used for the toxicity tests listed above shall be chemically analyzed to measure the concentrations of chlorine and the pollutants listed in Appendix D of 40 CFR Part 122. Grab samples shall be taken and analyzed for volatile organic compounds.

The actual detection limit must be specified for all values reported to be below the detection limit.

b. Evaluation of Toxicity Test Results

If toxicity test results show two or more violations of the NOEC or the NOAEL limitations (see A.1.a. on page 2 of Part I) within a six month period, the permittee shall submit a plan and a schedule for conducting a toxicity evaluation to the EPA within 45 days. The toxicity evaluation shall determine how the permittee can achieve the effluent toxicity limitations. After approval or modification of the plan by the EPA and the MADWPC, the permittee shall conduct the toxicity evaluation and shall submit all required reports to EPA within the specified time frames. The permittee also must continue to conduct toxicity tests as required in A.5 on page 5 of Part I. Upon completion of the evaluation, this permit may be modified to incorporate appropriate permit conditions.

c. Bioaccumulation Assessment

Within six months of the effective date of the permit, the permittee shall submit to the EPA a plan to assess the bioaccumulation potential from each of the existing POTW discharges 001 and 002 following the guidelines and procedures listed in Attachment D. Following EPA and MADWPC review and approval, the plan shall be implemented within one year of the effective date of the permit and shall be continued for the life of the permit. This permit may be modified to incorporate appropriate permit conditions based upon the bioaccumulation assessment.

d. Numerical Effluent Limitations for Toxicants

EPA and the MADWPC may use the results of the toxicity tests, chemical analyses, and bioaccumulation assessment conducted pursuant to this permit, as well as national water quality criteria developed pursuant to section 304(a)(1) of the Clean Water Act, state water quality criteria, and any other appropriate information or data, to develop numerical effluent limitations for any pollutants, including but not limited to those pollutants listed in Appendix D of 40 CFR Part 122. The EPA may modify this permit to incorporate such numerical effluent limitations.

6. Development of Limitations for Industrial Users:

a. Pollutants introduced into POTWs by a nondomestic source (user) shall not Pass Through the POTW or Interfere with the operation or performance of the works.

b. The permittee, in cases where pollutants contributed by User(s) result in Interference or Pass-Through, and such violation is likely to recur, shall develop and enforce spe-

cific effluent limits for Industrial User(s), and all other users, as appropriate, which together with appropriate changes in the POTW Treatment Plant's Facilities or operation, are necessary to ensure renewed and continued compliance with the POTW's NPDES permit or sludge use or disposal practices. Specific effluent limits shall not be developed and enforced without individual notice to persons or groups who have requested such notice and an opportunity to respond.

c. Where specific prohibitions or limits on pollutants or pollutant parameters are developed by the permittee in accordance with paragraph (b) above such limits shall be deemed Pretreatment Standards for the purposes of section 307(d) of the Act (once approved by EPA).

d. If, within 30 days after notice of an Interference or Pass Through violation has been sent by EPA to the POTW, and to persons or groups who have requested such notice, the POTW fails to commence appropriate enforcement action to correct the violation, EPA may take appropriate enforcement action.

7. Industrial Pretreatment Program

a. Program Implementation

1. The permittee shall have implemented the Industrial Pretreatment Program in accordance with the legal authorities, policies, procedures, and financial provisions described in the permittee's Pretreatment Program submission, as approved by EPA on 11/26/85 and the General Pretreatment Regulations, 40 CFR 403. The permittee shall maintain adequate resource levels to accomplish the objectives of the pretreatment program.

2. The permittee must obtain written approval from EPA prior to making any significant changes to the Industrial Pretreatment Program as approved by EPA (e.g., sewer use ordinance, local limits, method of controlling industrial discharges, and program staffing and resources).

b. Annual Report

By the fifteenth of January annually, the permittee shall submit a report to EPA and the MADWPC which includes the following:

1. An updated master list of all categorical and significant non-categorical industrial users (as defined in the permittee's approved Pretreatment Program), indicating compliance or non-compliance with the following (as applicable):

(1) Baseline monitoring report requirements;
(2) Compliance status reports;
(3) Self-monitoring reports;
(4) Categorical standards; and
(5) Local limitations

2. For the activities listed in a, b, and c below, provide a summary of compliance monitoring and enforcement actions during the reported period, including the number and percentage of actions, as compared to the number of industries on the master list. The summary for the activities listed in c, d, e, and below shall list the total number of actions in each category, shall describe the actions taken, and shall identify the industrial users subject to such actions.

(a) Facilities inspected;
(b) Facilities sampled;
(c) Compliance schedules issued;
(d) Notices of violations issued;
(e) Administrative orders issued;
(f) Criminal or civil suits filed; and
(g) Penalties obtained (and amounts)

3. A list of industries in significant non-compliance as published in local newspapers in accordance with the requirements set forth in 40 CFR 403.8(f)(2)(vii).

4. A narrative description of program effectiveness and present and proposed changes in program, e.g., funding, staffing, ordinances, regulations, rules, or statutory authority.

5. A summary of all data not previously submitted to the EPA on the permittee's POTW influent, effluent, and sludge and any bioassay data.

8. Discharge Limitations for CSO Outfalls

a. During wet weather, the permittee is permitted to discharge stormwater/wastewater from CSO outfalls, discharge serial numbers 003 to 041 (listed in Attachment B). Such discharges shall receive treatment at a level providing Best Conventional Pollutant Control Technology ("BCT") to control and abate conventional pollutants and Best Available Technology economically achievable ("BAT") to control and abate nonconventional and toxic pollutants. CSO discharges also must meet water quality standards. EPA has made a BPJ determination that BAT and BCT for the CSO discharges are no more stringent than the levels of treatment required to meet water quality standards. Therefore, CSO discharges must be treated to ensure that water quality standards will not be violated.

b. Dry weather discharges are not authorized.
c. Discharge of holding tank wastes and septage is not authorized.

9. CSO Outfall Identification and Monitoring Requirements

a. Outfall Identification

Within 12 months of the effective date of the permit, the permittee shall place and maintain identification signs for all City owned CSO outfall structures. These signs shall be a minimum of 12 x 18 inches in size, shall be metal with embossed white lettering against a green background, and shall contain the following information:

New Bedford
WET
WEATHER
SEWAGE
DISCHARGE
OUTFALL (discharge serial number)

The permittee shall give notice of compliance with this requirement pursuant to section C on page 11 of Part I.

b. Monitoring Requirements

Beginning the effective date of the permit, the permittee shall notify the EPA of all discharges from CSO outfalls, discharge serial numbers 003 through 041. The following information must be submitted for each outfall discharge in writing pursuant to Section C on page 11 of Part I:

1. When discharging from outfalls 003 through 041.

   (a) The estimated period of discharge;

   (b) the estimated volume of discharge; and

   (c) the National Weather Service precipitation data for Providence, Rhode Island, or other location approved by EPA and the state.

2. Beginning the effective date of this permit a monitoring program adequate to demonstrate compliance with paragraph 8 on page 8 shall be developed and submitted to EPA and the MADWPC for review and approval. The monitoring program shall be designed to:

   (a) Adequately assess compliance or non-compliance with water quality standards for the receiving water during wet and dry weather and minimum dilution conditions (for receivng waters)

   (b) Provide an assessment of individual overflow impacts on the receiving waters.

   (c) Provide for reporting of results to EPA and the state periodically, but no less frequent than quarterly.

3. Within six months of the effective date of this permit, the permittee shall implement the approved monitoring program.

B. OPERATION AND MAINTENANCE OF THE SEWER SYSTEM

Operation and maintenance of the sewer system shall be in compliance with the General Requirements of Part II and the following terms and conditions:

1. Maintenance Staff

The permittee shall provide an adequate staff to carry out the operation, maintenance, repair, and testing functions required to ensure compliance with the terms and conditions of this permit.

2. Infiltration/Inflow

The permittee, shall minimize infiltration/inflow to the sewer system. A summary report of all actions taken to minimize infiltration/inflow during the previous twelve months shall be submitted to EPA and the MADWPC by the fifteenth day of January each year.

3. Combined Sewer Overflows and Bypasses

The permittee shall operate and improve its POTW and the total sewer system to minimize the discharge of pollutants from combined sewer overflows or bypasses.

4. CSO Facilities and Systems Inspection and Maintenance Program

a. The permittee shall conduct a tidegate and overflow structure/regulator inspection and maintenance program as follows:

(1) Inspect combined sewer overflow structures/regulators and tidegate every three months.

(2) Repair and perform preventative and corrective maintenance, as necessary, to the combined sewer overflow structures/regulators and tidegates.

b. A report on tidegate and combined sewer overflow/regulator inspections, maintenance, and repair during the previous 12 months shall be submitted to the EPA by the 15th day of January each year. The report shall indicate which structures were checked and when, the condition of each one, which were repaired and when, which ones must yet be repaired, the reasons any repair was delayed, and the anticipated repair schedule.

5. Alternate Power Source

In order to maintain compliance with the terms and conditions of this permit, the permittee shall provide by the effective date of the permit an alternative power source sufficient to operate the wastewater control facilities.

C. MONITORING AND REPORTING

1. Monitoring

Monitoring shall be conducted pursuant to General Requirement 3 (Monitoring and Records) on pages 4 and 5 of Part II of the permit, unless otherwise required by Part I of the permit. The permittee shall identify the exact location of the effluent sampling point used for each discharge.

2. Reporting

a. All reports shall be in writing and shall be postmarked no later than the 15th day of the month following the completed reporting period, unless otherwise required by General Requirement 1 (Reporting Requirements) on pages 5 and 6 of Part II of the permit. The first reports must be postmarked by the 15th day of the month following the effective date of the permit. Monitoring results shall be reported on separate Discharge Monitoring Report forms and on any other forms designated by EPA.

b. Duplicate signed copies of all reports required herein shall be submitted to the EPA at the following address:

Permit Compliance Section
Compliance Branch
Water Management Division
Environmental Protection Agency
JFK Federal Building
Boston, MA 02203

Submittals to other offices in EPA shall not be construed to be a fullfillment of the terms and conditions of this permit.

Signed copies of all and reports required by this permit shall be submitted to the State at:

Massachusetts Department of Environmental Quality Engineering
Massachusetts Division of Water Pollution Control
Southeastern Regional Office
Lakeville Hospital
Middleboro, Massachussets 02346

Massachusetts Department of Environmental Quality Engineering
Massachusetts Division of Water Pollution Control
Regulatory Branch
1 Winter Street
Boston, Massachusetts 02108

3. Notice of Noncompliance

The permittee shall give notice of noncompliance with the terms and conditions of this permit pursuant to General Requirement 1 on pages 5 and 6 of Part II of the permit. Notice of noncompliance does not relieve the permittee of its obligation to ensure that such noncompliance does not occur.

D. STATE PERMIT CONDITIONS

This Discharge Permit is issued jointly by the U. S. Environmental Protection Agency and the Division of Water Pollution Control under Federal and State law, respectively. As such, all the terms and conditions of this permit are hereby incorporated into and constitute a discharge permit issued by the Director of the Massachusetts Division of Water Pollution Control pursuant to M.G.L. Chap. 21, §43.

Each Agency shall have the independent right to enforce the terms and conditions of this Permit. Any modification, suspension or revocation of this Permit shall be effective only with respect to the Agency taking such action, and shall not affect the validity or status of this Permit as issued by the other Agency, unless and until each Agency has concurred in writing with such modification, suspension or revocation. In the event any portion of this Permit is declared, invalid, illegal or otherwise issued in violation of State law such permit shall remain in full force and effect under Federal law as an NPDES Permit issued by the U. S. Environmental Protection Agency. In the event this Permit is declared invalid, illegal or otherwise issued in violation of Federal law, this Permit shall remain in full force and effect under State law as a Permit issued by the Commonwealth of Massachusetts.

ischarge	Location		Average Flow (MGD)	Receiving Water
)01	Treatment Plant Outfall	41°35'17" Lat. 70°53'37" Long.	30	Buzzards Bay
)02	Treatment Plant Auxiliary Outfall	41°31'58" Lat. 70°52'36" Long.	*	Buzzards Bay
	*Discharge flow in excess of design capacity main outfall (001)			

Discharge Serial No.	Location Description	Size and/or Type Oveflow	Receiving Water	Remarks
003	E. of Inter, Cove Rd. & Padanaram Ave.	54" R.C. Pipe	Clark's Cove	Constructed by U.S. Army Corps of Engineers-part of N.B. Hurrican Barrier
004	Hurrican Barrier Clark's Cove Pumping Sta	8'x7' R.C. Culvert	Clark's Cove	" " "
005	Dudley St. & W. Rodney French Blvd.	18" Pipe	Clark's Cove	
006	Lucas St. & W. Rodney French Blvd.	24" Pipe	Clark's Cove	Reconstructed April 1971
007	Capitol St. & W. Rodney French Blvd.	24" Pipe	Clark's Cove	Reconstructed April 1971
008	Calumet St. & W. Rodney French Blvd.	18" Pipe	Clark's Cove	
009	Aquidneck St. & West Rodney French Blvd.	18" Pipe	Clark's Cove	
010	Bellevue St. & West Rodney French Bvd.	12" Pipe	Clark's Cove	Reconstructed April 1971
11(10.1)	Hudson St. (extended) & W. Rodney French Blvd.	12" C.I. Pipe	Clark's Cove	
12	Ricketson St. & E. Rodney French Blvd.	30" C.I. Pipe	Buzzards Bay (Outer Harbor)	
13	Aquidneck St. & E. Rodney French Blvd.	15" Pipe	Buzzards Bay (Outer Harbor)	
14	Apponagansett St. & E. Rodney French Blvd.	24" Pipe	Buzzards Bay (Outer Harbor)	

Discharge Serial No.	Location Description	Size and/or Type Oveflow	Receiving Water	Remarks
015	Butler Street & E. Rodney French Blvd.	24" Pipe	Buzzards Bay (Outer Harbor)	Reconstructed August 1974
016	Frederick St. & E. Rodney French Blvd.	30" R.C. Pipe	Buzzards Bay (Outer Harbor)	Reconstructed
017	David Street & E. Rodney French Blvd.	48" Pipe	Buzzards Bay (Outer Harbor)	
018	Cove St. & E. Rodney French Blvd.	2 25" x 7' conduits	Drainage Ditch to Buzzards Bay (Outer Harbor)	
019	Route 6 - E. of Front St at Acushnet River	Pipe	Acushnet River	
020	Merrimac St. (extended) (500' S. of Wamsutta St.) E. of Herman Melville Blvd. at Acushnet River	6' x 6' R.C. Culvert	Acushnet River	
21	Washburn St. at Acushnet River	30" R.C. Pipe	Acushnet River	
22	Sawyer St. at Acushnet River	72" Brick Pipe	Acushnet River	
23	Coffin Ave. at Acushnet River	48" Culvert	Acushnet River	
24	Hathaway St. at Acushnet River	48" Brick Pipe	Acushnet River	
25	Howard Ave. at Acushnet River	24" VC Pipe	Acushnet River	
26	Truro St. (extended) /E. of River Rd. at Acushnet River	4' x 5' R.C. Culvert	Acushnet River	

Discharge Serial No.	Location Description	Size and/or Type Oveflow	Receiving Water	Remarks
027	Mill Rd. at Acushnet River	72"x54"	Acushnet River	
028(18.1)	Gifford St.	36" Pipe	Buzzards Bay (Inner Harbor)	
029(32)	Blackmer St.	30" Pipe	Buzzards Bay (Inner Harbor)	
030(18.2)	South St.	5' x 7' Box Culvert	Buzzards Bay (Inner Harbor)	
031	Conway St.	2-13' x 7' Boxes	Buzzards Bay (Inner Harbor)	
032(18.3)	Walnut St.	90" Pipe	Buzzards Bay (Inner Harbor)	
)33(18.4)	School St.	42" Pipe	Buzzards Bay (Inner Harbor)	
34(18.5)	William St.	72" Pipe	Buzzards Bay (Inner Harbor)	
35(18.6)	Maxfield St.	66" Pipe	Buzzards Bay (Inner Harbor)	
36(18.7)	Harvey Tichon Ave.	60" Pipe	Buzzards Bay (Inner Harbor)	
7(18.8)	Pope St.	24" Pipe	Buzzards Bay (Inner Harbor)	
8(20.1)	Wamsutta St.	24" Pipe	Acushnet River	

Discharge Serial No.	Location Description	Size and/or Type Overflow	Receiving Water	Remarks
039(29)	Coggeshall St.	18" Pipe	Acushnet River	
040(30)	Coggeshall St.	24" Pipe	Acushnet River	
041(28)	Belleville Rd.	51" x 60" Pipe	Acushnet River	
Note				
The CSO with a number contained within parentheses are CSO's that have been identified subsequent to the issuance of the previous NPDES permit.				

Attachment C
Toxicity Testing
Test Procedures and Sampling Requirements

1. The samples shall be:

   a. Collected during a period of chlorination.

   b. For POTW:
   One representative weekday 24 hour composite sample of the discharge from the POTW (one composite sample to be collected at each outfall sampling station).

2. The tests shall begin within 24 hours following the collection of effluent samples.
3. The control water used for the dilution should be of excellent quality and support 90% survival of the test organisms.

4. Each bioassay test must conform to the respective methodology as outlined in:

   a. Shimmel, S.C., Hughes, M.M., Hebar, M.A., Berry, W.J., Final Report on Growth and Survival Studies with Effluents Using the Sheepshead Minnow (Cyprinodon variegatus). U.S. Environmental Protection Agency, Environmental Research Laboratory, Narragansett, RI. (ERL-Narragansett Conribution #669)

   b. Final Report on Sexual Reproduction Studies with Complex Effluents Using the Marine Red Alga Champia Parvula. U.S. Environmental Protection Agency, Environmental Research Laboratory, Narragansett, RI.

   c. Peltier, W.H., and Weber, C.I., PhD, Methods for Measuring the Acute Toxicity of Effluents to Freshwater and Marine Organisms (Third Edition), EPA-600/4-85-013. Environmental Monitoring and Support Laboratory, Office of Research and Development, U.S. Environmental Protection Agency, Cincinnati, OH, March 1985.

Attachment D
Bioaccumulation Assessment Plan
Guidelines and Pocedures

The permittee shall monitor three exposure sites within the zone of initial dilution (ZID) of the Buzzard Bay discharge outfalls 001 and 002 plus a control using live, caged molluscs.

The following general methods outline shall be adhered to:

Test species (2)	-	Blue mussel (Mytilus edulis) Eastern oysteer (Crassostrea virginica)
Exposures (2)	-	May - June August
Duration	-	30 days
Number	-	Minimum of 25 individuals for each species
End Point	- -	Survivability at end of 30 days Bioaccumulation
Suggested Control	-	Marion Harbor, MA or alternate location approved by EPA and the state.
Method:	-	U.S. Environmental Protection Agency. 1983. Methods for Use of Caged Mussels for In Situ Biomonitoring of Marine Sewage Discharges. EPA-600/4-83-000. Cincinnati, OH.